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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
COMLEY, ALEXANDER BRYANT	
ART UNIT	PAPER NUMBER
3746	
MAIL DATE	DELIVERY MODE
03/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,748	IDE ET AL.	
	Examiner	Art Unit	
	ALEXANDER B. COMLEY	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

1. The Examiner acknowledges Applicant's amendments, arguments, and remarks filed with the Office on February 4th, 2009 in response to the Final Office Action mailed by the Office on November 10th, 2008. Applicant's arguments were discussed in a telephonic interview on December 19th, 2008, and they were found to be persuasive. Applicant's claims have been reconsidered, and are addressed below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 6-8 & 10** are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent to Outzen (4,759,693) directed to a Suction Sound Damper.

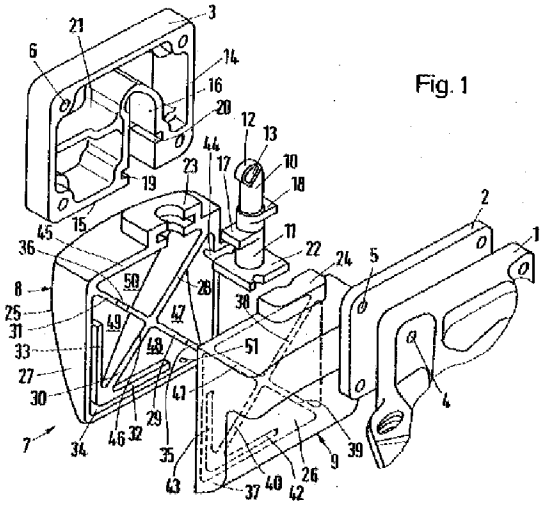


Fig. 1

Regarding Independent **Claim 1**, and with reference to Figure 1 shown immediately above, Outzen discloses:

> A hermetic type compressor comprising: a hermetic container (not shown) which accommodates stored oil, an electric motor unit (not shown) and a compressing unit (slide piston device; not shown), wherein the compressing unit comprises: a cylinder (1) for storing a reciprocally moving piston, a plate (2) disposed at an end of the cylinder (1), a suction muffler (7) having a connection pipe (10) communicated to a suction hole (suction valve orifice, not shown) in the plate (2), and a cylinder head (3) disposed at the anti-cylinder side of the plate (2), and the cylinder head (3) is formed with a discharge chamber (21) and a resonance chamber (8, 9) which communicates with an open side of the connection pipe (10); a flange (17, 18) which is generally U-shaped having upper and lower surfaces and an outer surface disposed so as to surround an outer periphery of the connection pipe (10); the cylinder head (3) is provided with a generally U-shaped groove (19, 20) to which the generally U-shaped flange (17, 18) is fitted at a position corresponding to the flange (17, 18); and by fitting the flange (17, 18) into the groove (19, 20), having an effective sealing width added to the upper and lower surfaces and the outer surface, thereby forming a seal portion so as to prevent a leakage of pressure pulsation in the resonance chamber (8, 9) to the outside.

As shown in Figure 1 above, Outzen discloses a hermetically-sealed, sliding piston compressor unit that utilizes a specially-designed suction muffler attachment

structure designed to affix the muffler to the cylinder head using flange-and-groove connection means. In particular, Outzen states “FIG. 1 shows a cylinder block 1 of a slide piston compressor of a hermetically encapsulated small refrigerator. A valve plate 2 is provided at its end face and above it a cylinder cover in that appropriate screws are passed through the screw holes 4, 5 and 6. A suction sound damper comprises a housing 7, consisting of two flat shells 8 and 9 and unified by a suction nipple 10.” (Column 4, Lines 17-23) Outzen goes on to describe the flange and groove structures by stating " The suction nipple consists of a tube 11 of which the outlet end 12 is curved so that the outlet aperture 13 can lie against the valve plate 2 in the region of the suction valve orifice (not shown). For this purpose, the cylinder cover 3 is provided at its end face 14 facing the cylinder with a groove 16 which extends from the side wall 15 and into which the suction nipple 10 can be pushed. Its tube 11 carries at opposed sides two axially offset projections 17 and 18 which can engage in complementary guides 19 and 20 in the wall of the groove 16. The rest of the interior of the cylinder cover 3 serves as a pressure valve chamber 21.” (Column 4, Lines 24-35) It can be seen in Figure 1 that the projections (17, 18) are u-shaped, and that they engage u-shaped grooves (19, 20) disposed in the cylinder head 3. Outzen’s flange member 22 is also u-shaped (in that it has a u-shaped cutout), and fits into corresponding u-shaped grooves (23, 24). Outzen makes it clear that the flange-and-groove structures provide a good seal between mating parts of the cylinder head and muffler by first stating “By means of the interaction between the tongue and groove (projections 17,18 and grooves 19, 20), one obtains a particularly good seal in the interior of the housing where

it is later impossible to make a visual check." (Column 3, Lines 55-58) Moreover, Outzen states "Advantageously, the suction nipple has a projecting retaining element (retaining element 22) which engages in fittings of both shells. This secures the suction nipple against axial displacement. In conjunction with the depressions, the retaining element forms a kind of labyrinth seal so that a leakage flow is practically suppressed even if the suction nipple is not closely surrounded by the shell material." (Column 1, Line 67 - Column 2, Line 6) Therefore, it is clear that the suction muffler of Outzen is structured in the same manner as Applicant's claimed invention, and provides the same primary function (i.e. reducing pressure pulsation leakage).

4. Regarding dependent **Claims 6 & 7**, and with particular reference to Figure 1, Outzen discloses a ring-like seat, or tube 11, designed to be disposed along the inner wall of the nearly-semi-circular resonance chamber 16 of the cylinder head 3. (See Column 4, Lines 24-40) In regards to dependent **Claims 8 & 10**, Outzen discloses the use of appropriately selected resonance frequencies when and if less noise is desired. In particular, Outzen discloses a suction sound damper designed to eliminate resonance oscillations altogether by stating "It is particularly favourable for the shells to be substantially rectangular...Such a suction sound damper can be accommodated in the capsule to save space and has an extraordinary strength which ensures that resonance oscillations of the housing do not occur at all or lie above the hearing threshold" (Column 2, Lines 67-68; Column 3, Lines 1-6)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 4-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 4,759,693 to Outzen in view of United States Patent No. 6,464,480 to Fenocchi et al. (6,464,480) directed to an Oil Spout for a Scroll Compressor.

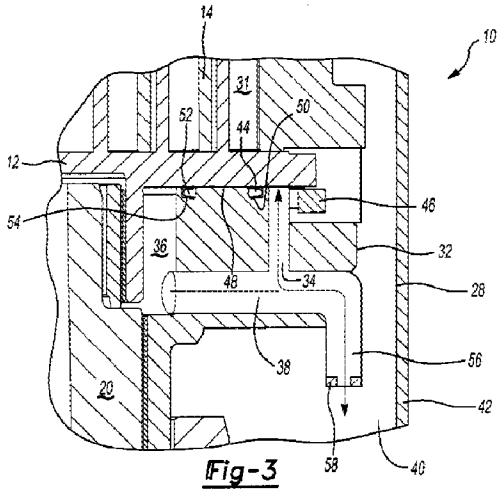
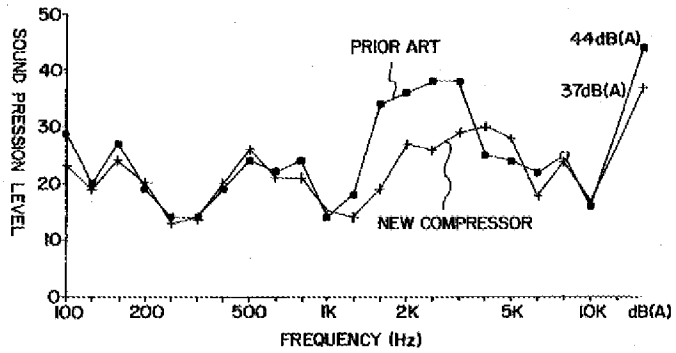


Fig-3

Outzen does not disclose an oil hole disposed at the bottom of the suction muffler specifically for allowing oil to lubricate the seal portion (although Outzen does disclose an oil hole 51 located at the bottom of the suction muffler). However, Fenocchi specifically discloses, in Figure 3 seen above, a compressor having an oil spout 34 that redirects a portion of oil entering an oil return passage 38 to supply lubrication between an outer seal 44 and a coupling 46. Fenocchi's setup provides enhanced seal reliability, as made clear by Fenocchi stating "The oil spout provides a continual flow of lubrication to the outer seal and the coupling, preventing excessive wear of the outer seal and improving seal reliability" (Column 1, Lines 54-56). Therefore, to one of ordinary skill desiring enhanced seal life through lubrication, it would have been obvious to utilize the techniques disclosed in Outzen in combination with those seen in Fenocchi in order to obtain such a result. Consequently, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the suction muffler and suction base of Outzen with an oil hole similar to that of Fenocchi in order to obtain predictable results; those results being a more tightly-sealed suction muffler that greatly minimizes audible annoyances while lengthening the overall seal life.

8. **Claims 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 4,759,693 to Outzen in view of United States Patent to Alfano et al. (5,487,648) directed to a Shell Configuration for a Hermetic Compressor.

FIG. 4



Outzen does not disclose that the resonance frequency of a plane portion of the hermetic container and the resonance frequency of the opening of the suction muffler are independent of each other. However, Alfano et al. specifically discloses the particular method of designing the container to have a resonance frequency different than that of motor compressor itself. In particular, Alfano states, "In the hermetic motor compressors for home refrigerators, beside the efficiency, a very important issue is the noise produced by the motor compressor and transmitted outside by the shell. It is known that for reducing the noise it is necessary to shape the shell in such a way that its resonance frequency is different from the frequency of the motor compressor." (Column 1, Lines 23-29) Therefore, since the suction muffler together with the motor may form the "motor compressor", Alfano et al. makes it obvious to vary the frequencies of the hermetic container and the suction muffler. Therefore, to one of ordinary skill desiring a quieter compressor unit, it would have been obvious to utilize the techniques disclosed in Outzen in combination with those seen in Alfano in order to obtain such a result. Consequently, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the compressor structure of Outzen with the differing resonant frequencies of Alfano et al. in order to obtain predictable results; those results

being a much quieter compressor that eliminates much of the audible annoyances associated with comparable compressors.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER B. COMLEY whose telephone number is (571)270-3772. The examiner can normally be reached on M-F 7:30am - 5:00am EST (Alternate Fridays Off). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon C. Kramer can be reached on (571)-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander B Comley/
Examiner, Art Unit 3746

/Devon C Kramer/
Supervisory Patent Examiner, Art Unit 3746

ABC